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APPLICANT : RES INST ELECTRIC MAGNETIC ALLOYS;

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TITLE : SOFT MAGNETIC ALLOY FOR REED CHIP, MANUFACTURE THEREOF AND REED SWITCH

ABSTRACT : PURPOSE: To manufacture an alloy suitable for use as a material for the reed chip of a reed switch by adding specified percentages of Co, Cr, Mo, V, Nb, W and Ta to Fe so as to provide specified magnetic flux density and coercive force to the resulting soft magnetic alloy.

CONSTITUTION: An alloy consisting of, by weight, 20-65% Co, 0.01-10% in total of one or more among  $\leq 5\%$  each of Cr, Mo, V and Nb and  $\leq 10\%$  each of W and Ta and the balance Fe with a small amt. of impurities is manufactured. The alloy is cold worked at  $\geq$  about 50% working rate and heated at  $\geq$  about 700°C to obtain a soft magnetic alloy having  $\geq 16\text{kG}$  magnetic flux density and  $\leq 2\text{Oe}$  coercive force in 50Oe magnetic field. The alloy also has low specific electric resistance and a low coefft. of thermal expansion, so it is suitable for use as a material for the reed chip of a reed switch.

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